



## UC4G London Workshop 2011

### “B4G Wireless Communication Systems: Industrial and Academic Outlooks” 13-14 December 2011, London

**Day 1 (13 Dec. 2011) Programme, Tottenham (185) SB5, University College London (UCL), 188 Tottenham Court Rd, London W1T 7:**

08:30-09:00 Registration	
<b>Welcome/Keynote Speeches and Project Overview (Chair: Prof. Peter Grant)</b>	
09:00-09:10	Welcome speech (tbc)
09:10-09:30	Keynote speech 1 (Dr. Edward Clarke, RCUK)
09:30-10:00	Overview of the UC4G project progress (Prof. Cheng-Xiang Wang, HWU, PI of UC4G project)
10:00-10:30	Keynote speech 2 (Prof. Joe McGeehan, Univ. of Bristol) (tbc)
10:30-11:00	Keynote speech 3 The Fifth MIMO (Prof. Lajos Hanzo, Univ. of Southampton)
11:00-11:20 Coffee/tea break	
<b>Session 1: UC4G Wireless Testbed (Chair: Prof. Mark Beach)</b>	
11:20-11:40	Overview of testbed development in WiCo (Prof. Yang Yang, WiCO)
11:40-12:00	Converged network testbed in Essex (Prof. Kun Yang, Univ. of Essex)
12:00-12:15	Overview of the HWU-UoB-UoE collaboration (Prof. Mark Beach, Univ. of Bristol)
12:15-12:35	Introduction of the UC4G testbed and its capabilities (Dr Pat Chamber and Dr Zengmao Chen, HWU) Latest research results in spatial modulation (SM) and outlook (Prof. Harald Haas, UoE) Using Bristol channel measurements to evaluate SM: a pre-study (Will Thompson, Univ. of Bristol) Implementation of SM in the UC4G testbed: initial results and outlook (Abdelhamid Younis, UoE)
12:35-12:50	
12:50-13:05	
13:05-13:20	
13:20-14:20 Lunch	
<b>Session 2: Industry Prospective: Standardisation &amp; Commercialisation (Chair: Mr Simon Fletcher)</b>	
14:20-14:40	<i>Invited speech 1:</i> Green radio framework orientation towards LTE Advanced (Mr Simon Fletcher, NEC)
14:40-15:00	<i>Invited speech 2:</i> Green communications (Nigel Jefferies, Huawei)
15:00-15:20	<i>Invited speech 3:</i> Dr Ralf Irmer, Vodafone Group Research & Development (tbc)
15:20-15:40	<i>Invited speech 4:</i> Enabling future wireless technology research through flexible & modular platforms (Richard Silley, National Instruments)
15:40-16:00 Coffee/tea break	
<b>Session 3: Academic Outlooks on B4G (Chair: Prof. Alister Burr)</b>	
16:00-16:20	<i>Invited speech 1:</i> Green multi-users CoMP transmission technique (Prof. Xiaofeng Tao, BUPT)
16:20-16:40	<i>Invited speech 2:</i> Physical layer network coding for 4G & beyond (Prof. Alister Burr, Univ. of York)
16:40-17:00	<i>Invited speech 3:</i> Compact three-dimensional polarization antennas for 4G mobile communication systems (Dr Kenneth Tong, UCL)
17:00-17:20	<i>Invited speech 4:</i> The investigation of interference mitigation techniques in LTE/LTE-A home eNodeB (HeNB) (Prof. Jie Zhang, Univ. of Sheffield)
17:20-17:50	Panel Discussion (B4G and Testbed Development), Moderated by Peter Grant and Cheng-Xiang Wang
18:00 Dinner	



**UK-China Science Bridges:  
R&D on (B)4G Wireless Mobile Communications (UC4G)**



**Day 2 (14 Dec. 2011) Programme**, Classroom 1.11, Franklin-Wilkins Building, Waterloo Campus, King's College London (KCL): <http://www.kcl.ac.uk/campuslife/campuses/waterloo/Waterloo.aspx>

8:30-9:00 Registration	
<b>Session 4: PHY Fundamentals and Resource Allocation (Chair: Dr Soon Xin Ng)</b>	
09:00-09:20	Physical layer network coding: From theory to practice (Prof. Lajos Hanzo, Univ. of Southampton, on behalf of Dr Wei Chen, Tsinghua Univ.)
09:20-09:40	Sustainable mobile communication networks: Green communications perspective (Prof. Lajos Hanzo, Univ. of Southampton, on behalf of Prof. Liqiang Zhao, Xidian Univ.)
09:40-10:00	Optimal resource allocation for heterogeneous transmission in multi-cell OFDMA Systems (Prof. Lajos Hanzo, Univ. of Southampton, on behalf of Prof. Qinghai Yang, Xidian Univ.)
10:00-10:20	Near-capacity FEC codes for MIMO non-regenerative wireless relay system (Dr Soon Xin Ng, Univ. of Southampton)
10:20-10:40	Adaptive estimation of time-varying radio channel quality (Dr Xuewu Dai, UCL)
10:40-11:00 Coffee/tea break	
<b>Session 5: Cooperative MIMO and Green Communications (Chair: Dr Pei-Jung Chung)</b>	
11:00-11:20	Relay aided MIMO multiuser downlink transmission (Dr Wei Liu, Xidian Univ.)
11:20-11:40	A probabilistic approach for robust MU-MIMO downlink beamforming (Dr. Pei-Jung Chung, UoE)
11:40-12:00	Energy efficient technologies for cooperative MIMO mobile communication systems based on interference coordination (Prof. Xiaohu Ge, Huazhong Univ. of Science and Technology)
12:00-12:20	Realistic cooperative MIMO channel models for 4G and beyond (Prof. Cheng-Xiang Wang, HWU)
12:20-13:20 Lunch	
<b>Session 6: Interference Management and RRM (Chair: Dr Xiaoli Chu)</b>	
13:20-13:40	Coordinated radio resource management (CoRRM) for LTE-Advanced (Dr Hui Song, Univ. of Bedfordshire)
13:40-14:00	A self-organizing approach to inter-cell interference avoidance for OFDMA femtocells sharing spectrum with macro underlay (Dr Xiaoli Chu, KCL)
14:00-14:20	Optimization of RRU/UE pairs for multi-point to multi-UE coordinated (MP2MUC) transmissions (Dr. Simon Armour, Univ. of Bristol on behalf of Dr Yongzhao Li, Xidian Univ.)
14:20-14:40	Interference management in future wireless networks for high throughput, high fairness and low energy consumption (Dr Guixia Kang, BUPT) (tbc)
14:40-15:00 Coffee/tea break	
<b>Session 7: Service and Network Planning (Chair: Prof. Zhili Sun)</b>	
15:00-15:20	The optimal planning of antenna localizations of wireless MIMO systems ( Dr. Pei-Jung Chung, Univ. of Edinburgh on behalf of Prof. Ming Chen, SEU)
15:20-15:40	Internet traffic modeling for efficient network resource management (Prof. Zhili Sun, Univ. of Surrey)
15:40-16:00	Enhanced optimum server selection algorithms for Mobile IPTV services ( Prof. Zhili Sun, Univ. of Surrey, on behalf of Zhiyong Liu from CATR )
16:00-16:20	QoS-guarantee algorithms for multi-hop wireless mesh networks (Mr Yu Chen, UCL)
End of workshop	



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**Abbreviations:**

- BUPT: Beijing University of Post and Telecommunications
- CATR: Chinese Academy of Telecommunication Research, China
- KCL: King's College London, UK
- HWU: Heriot-Watt University, UK
- SEU: Southeast University, China
- UCL: University College London, UK
- UoE: University of Edinburgh, UK
- WiCO: Shanghai Research Centre for Wireless Communications

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